université de TOURS

LIFAT EA 6300

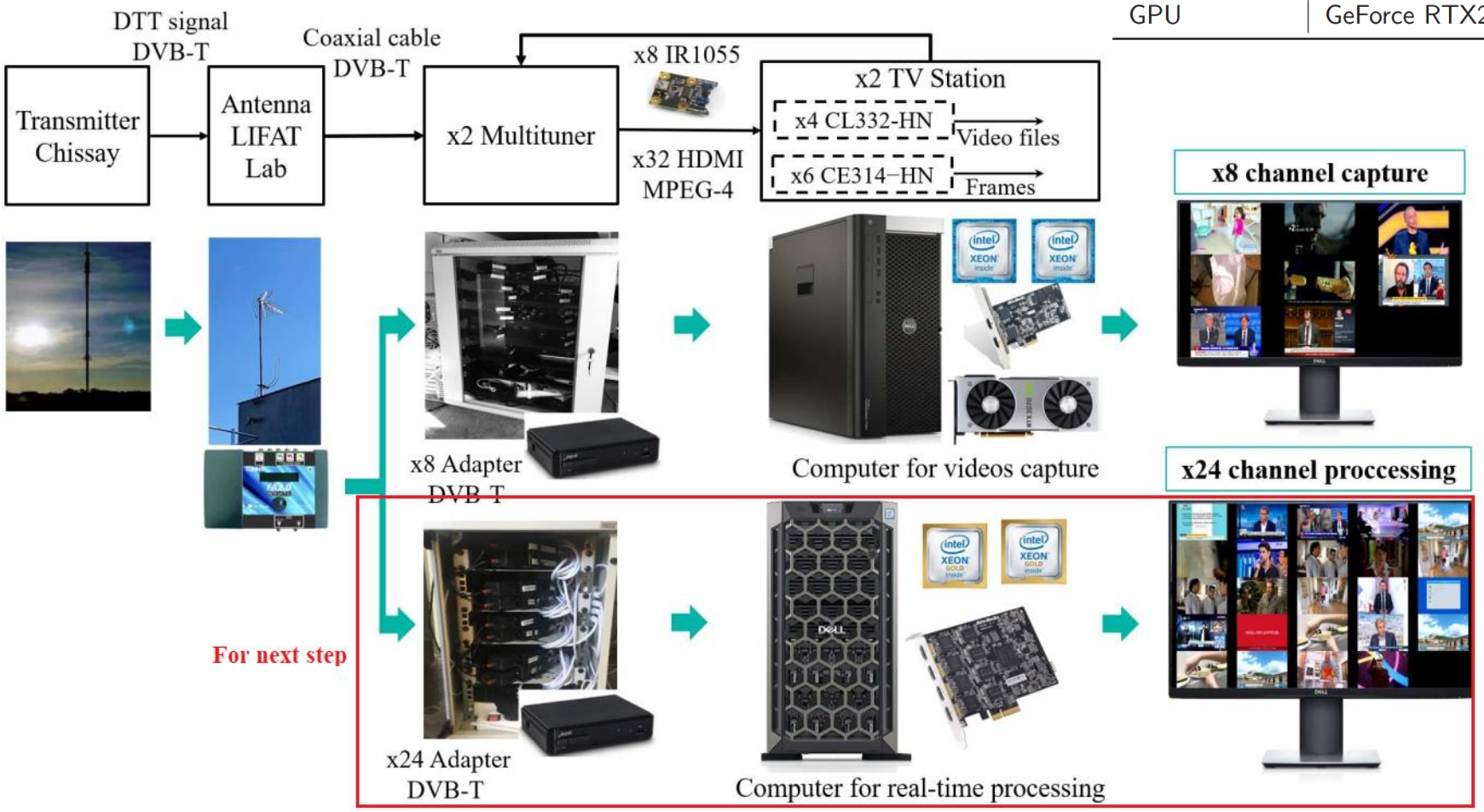
Laboratoire d'Informatique Fondamentale et Appliquée de Tours

TV workstation introduction

LIFAT labroratory, Tours city, France

The architecture

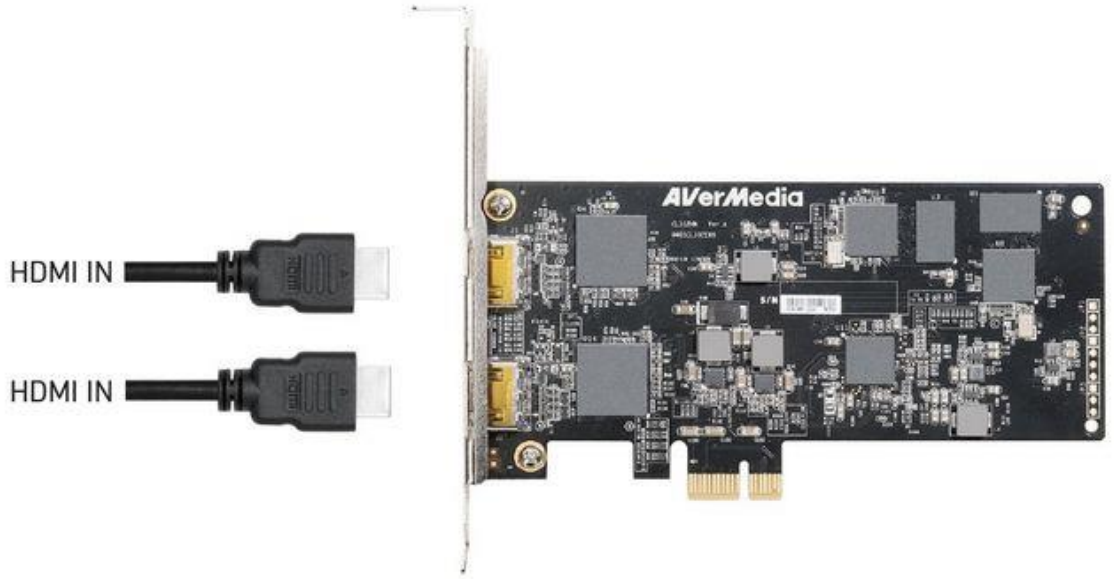
Name	Model	Qty	Specification
Workstation	DELL Precision T7600	2	Intel Xeon(R) CPU E5-2620
Workstation	DELL PowerEdge T640	2	Intel Xeon Gold 5218R CPU 2.10
Encoding card	AVERMEDIA CL332-HN	4	2-Channel Full HD HW H.264
Decoding card	AVERMEDIA CE314-HN	6	4-Channel Full HD
Adapter	Astrell DVB-T 011128	32	Adapter DVB-T HDMI
Infrared sensor	PhidgetIR-1055	8	USB IR Transmitter / Receiver
GPU	GeForce RTX2070 super	1	9.06 TFLOPS



- Objectives
  - Live capture
  - TV analytics
  - Scraper TV
  - Image/video Understanding
  - Etc.

Multi-channels capture

- CL332-HN
  - Dual-Channel
  - Full-HD capture(1920 x 1080 30fps)
  - Hardware H.264 encoding
  - Standard HDMI connector
  - SDK and Windows compatible



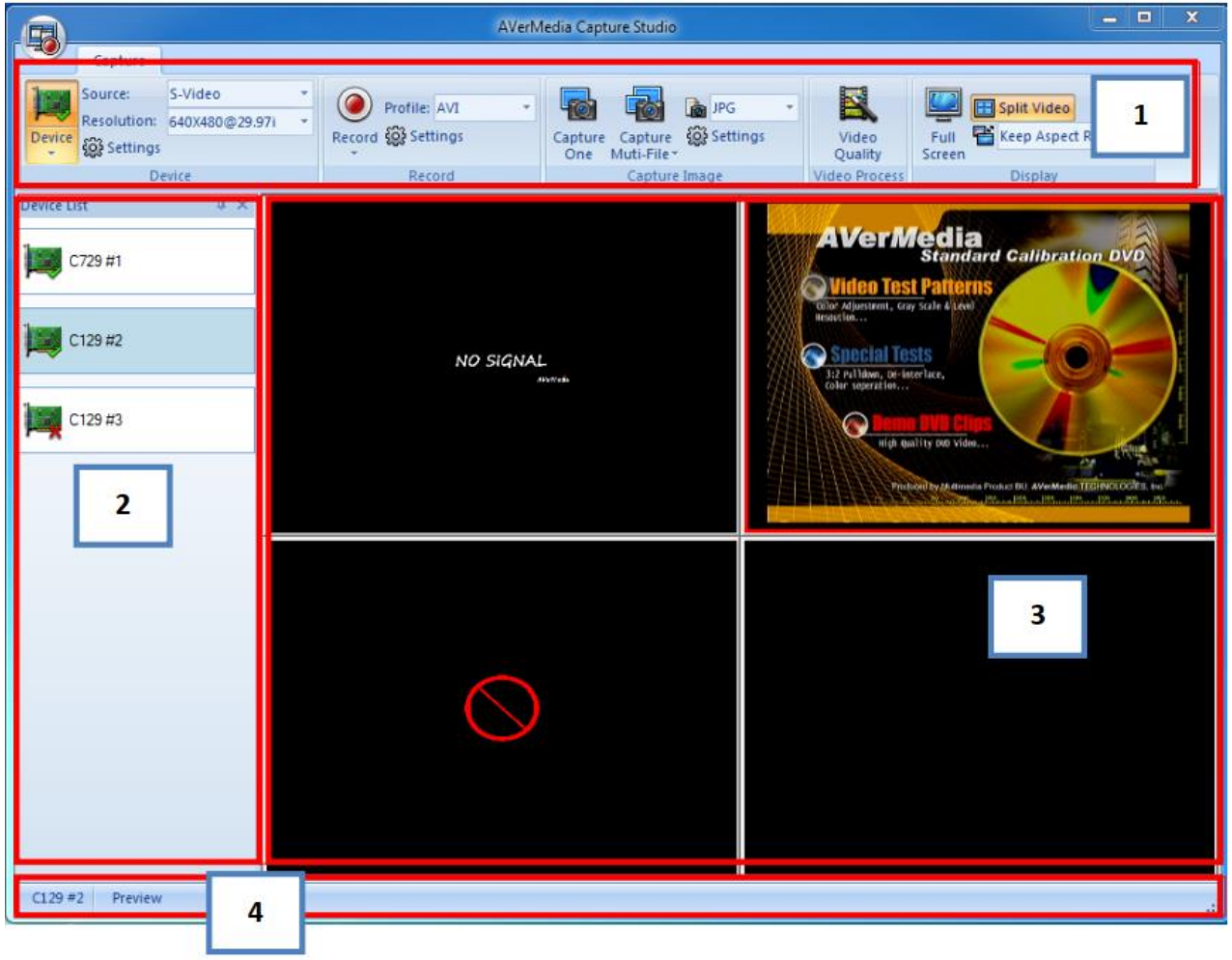
- Requirements
  - Aver Media PCI card CL332-HN
  - CL332-HN Driver
  - SDK & Capture Studio

https://www.avermedia.com/professional/product/cl332_hn/overview

Capture Studio

- GUI provided Aver media
  - Functional Area (1)
  - Device List (2)
  - Main Window Area (3)
  - Status Bar (4)

-> can not customize code



Capture by SDK (Software Development Kit)

- Programming Language Support: C++, **WPF (C#)** and VB.net
- Sample Code: sample codes, demos and source codes
- Operating System: Windows only
- IDE: Microsoft Visual Studio recommended
- Download MS Visual Studio: https://visualstudio.microsoft.com/

Example

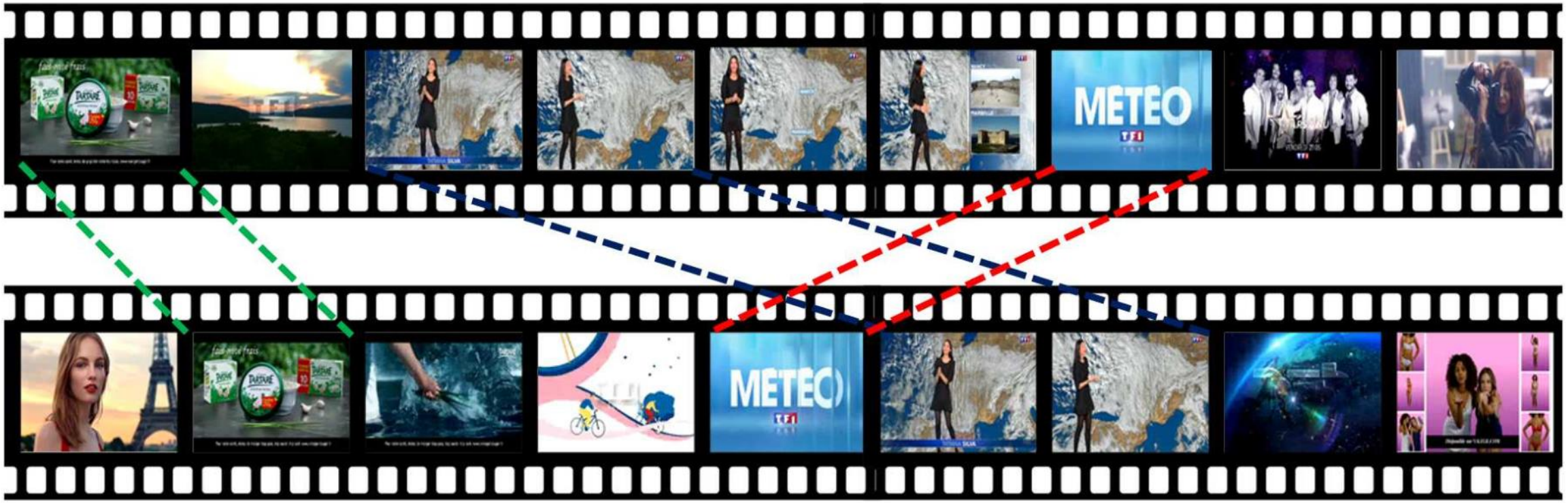
- Step 1: Configure the capture parameters
- Step 2: Start / Stop capture
- Start:
  AVerCapAPI.AVerStartRecordFile(m_hCaptureDevice, ref m_hRecordobject, m_szFileName);
- Stop:
  AVerCapAPI.AVerStopRecordFile(m_hRecordobject);

```
[CONFIGURATION]
dwInputType = 2
;# [1] : RAWAUDIO
;# [2] : RAWVIDEO
;# [3] : RAWAUDIO&RAWVIDEO
dwSaveType  = 2
;# [0] : AVI
;# [1] : MPG
;# [2] : MP4
;# [3] : TS

[ENCODER_TYPE]
dwEncoderType = 1
;# [0]     : DEFAULT
;# [1]     : H264
;# [2]     : H265
;# [65536] : AAC
;# [65537] : H264&AAC
;# [65538] : H265&AAC
```

Example

- A large Scale TV Dataset (STVD)
- Partial video copy detection (PVCD)



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Thank you!
Q & A